ROBOTICS I HONORS PRACTICE EXAM (SAMPLE)

STUDY GUIDE

SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

1. A pick and place robot never has rotary motion.

A. False

B. True

C. Depends on the task

D. Only in 3D

2. Many underwater ROVs began from engineering at NASA.

A. True

B. False

C. Partially

D. Not sure

3. True or False: Proximity sensors can count the number of proximate objects in the air.

A. True

B. False

C. Sometimes

D. Not at all

4. True or False: Pushbuttons and keypads may be used for incremental control of robot motion.

A. It depends

B. Not commonly used

C. True

D. False

5. Which statement about closed-loop control is true regarding disturbances?

A. It is the simplest form of control

B. It does not use sensors

C. It cannot handle disturbances

D. It is more robust to disturbances due to feedback

6. If you think it is not safe, then _____.

A. Ask permission

B. Just don't do it

C. Proceed with caution

D. Don't worry, it'll be ok

7. Which device is used to monitor the rotational speed of a motor shaft?

A. Tachometer

B. Speedometer

C. Altimeter

D. Anemometer

8. _____ refers to how many object has been adapted for grasping or holding

A. Perhendility

B. Reachability

C. Manipulability

D. Graspability

9. Which of the following is an application of robotics?

A. Locating and defusing bombs

B. Saving lives on beaches

C. Manufacturing air craft parts

D. All of the above are applications of robotics

10. Which early robot was capable of playing the organ?

A. The Honda ASIMO

B. Hexapodal robot named Genghis

C. Wabot-2 capable of playing the organ

D. SCARA

Answers

1. A
2. A
3. B
4. C
5. D
6. B
7. A
8. A
9. D
10. C

Explanations

1. A pick and place robot never has rotary motion.

A. False

B. True

C. Depends on the task

D. Only in 3D

Rotational motion is often part of a pick-and-place robot because orienting the grasped object is usually as important as reaching its location. A rotating wrist or gripper lets the end effector adjust the angle of the part so it can be picked up reliably from racks or conveyors and placed into a fixture or bin with the correct orientation. Even systems that mainly translate in x, y, and z typically include some rotary joint at the end effector to control orientation. So the statement claiming no rotary motion ever is not correct.

2. Many underwater ROVs began from engineering at NASA.

A. True

B. False

C. Partially

D. Not sure

Teleoperation and robotic manipulation research from NASA played a key role in the early development of underwater remotely operated vehicles. NASA tackled controlling robots in dangerous, hard-to-reach environments, which led to robust control systems, tethered operation, depth-rated housings, and effective sensor and camera setups. Those technologies and design approaches were directly applied to underwater exploration and maintenance, so many of the first practical ROVs drew from NASA-built concepts and hardware. Other organizations, like the Navy and universities, contributed as well, but NASA's work provided a strong engineering foundation that helps explain why this statement is true.

3. True or False: Proximity sensors can count the number of proximate objects in the air.

A. True

B. False

C. Sometimes

D. Not at all

Proximity sensors are designed to detect whether something is nearby within a fixed range. They typically output a simple signal indicating "object present" or not, or sometimes give a distance to the nearest object. They're not built to count how many objects are in the air at once. Counting requires resolving and distinguishing multiple targets, which is beyond the standard capability of a single proximity sensor. For counting, you'd use a system like a camera with vision processing or a radar/LiDAR setup, or an array of sensors that can track multiple objects. So the statement is false.

4. True or False: Pushbuttons and keypads may be used for incremental control of robot motion.

A. It depends

B. Not commonly used

C. True

D. False

Incremental control relies on discrete inputs to advance motion in small steps. Pushbuttons and keypads fit this role because each press can be mapped to a fixed, predefined amount of movement for a robot joint or axis. This allows a human operator to nudge the robot precisely, step by step, which is exactly how jog modes and teach pendants are used in practice. If you want a tiny adjustment, press once; for another tiny adjustment, press again. Some systems may let a held input produce continuous motion or alter the step size, but the core idea remains that these devices enable controlled, incremental movement rather than a single seamless velocity. So the statement is true: pushbuttons and keypads can be used for incremental control of robot motion.

5. Which statement about closed-loop control is true regarding disturbances?

A. It is the simplest form of control

B. It does not use sensors

C. It cannot handle disturbances

D. It is more robust to disturbances due to feedback

Feedback in closed-loop control relies on sensing the actual output, comparing it to the desired value, and adjusting the actuator to correct any deviation. When disturbances push the system away from its target, the sensor detects the change, and the controller applies a corrective action to bring the output back toward the setpoint. This ongoing adjustment makes the system more robust to disturbances because it actively counteracts their effect rather than leaving the output to drift. Statements that claim closed-loop control is the simplest form, that it doesn't use sensors, or that it cannot handle disturbances aren't accurate. Closed-loop control uses sensors and feedback, and its main advantage is its ability to reject disturbances through those continuous corrections.

6. If you think it is not safe, then _____.

A. Ask permission

B. Just don't do it

C. Proceed with caution

D. Don't worry, it'll be ok

Safety first: if you determine a situation is not safe, the right move is to not perform the action. This prevents harm to people and equipment and gives you time to reassess, identify the hazard, and seek guidance or corrective action. Asking for permission can be part of a process, but it doesn't remove the risk by itself—you shouldn't proceed until the hazard is addressed. Proceeding with caution still leaves you exposed to unknown risks and can't guarantee safety. Don't worry it'll be ok is not acceptable when real hazards are present.

7. Which device is used to monitor the rotational speed of a motor shaft?

A. Tachometer

B. Speedometer

C. Altimeter

D. Anemometer

Measuring rotational speed (RPM) of a motor shaft is what a tachometer is designed to do. A tachometer converts how fast the shaft rotates into a readable signal, typically RPM, using a sensor that counts revolutions per minute. This is essential for motor control and maintenance because knowing the shaft speed lets you monitor performance, keep the motor within safe operating limits, and provide speed feedback for control systems. The other devices measure different quantities: a speedometer tracks vehicle speed, an altimeter measures altitude, and an anemometer measures wind speed. So the tachometer is the device that best fits monitoring shaft rotation.

8. _____ refers to how many object has been adapted for grasping or holding

A. Perhendility

B. Reachability

C. Manipulability

D. Graspability

Graspability is the property that describes how easily an object can be picked up, gripped, or held by a hand or gripper. This depends on features like shape, size, edges, texture, and any handles or grip-friendly contours that provide stable contact points and a favorable center of mass. Among the options, graspability best matches the idea of how suitable an object is for grasping. Reachability is about whether the robot can reach the object, manipulability concerns how easily the arm can move or apply force once grasped, and perhendility isn't a standard robotics term. So graspability is the correct concept.

9. Which of the following is an application of robotics?

A. Locating and defusing bombs

B. Saving lives on beaches

C. Manufacturing air craft parts

D. All of the above are applications of robotics

Robotics covers tasks that are dangerous, require precision, or need to be done at scale, across many fields. Locating and defusing bombs is a clear use, because remote-controlled or autonomous robots let investigators handle hazardous items without risking human lives. Saving lives on beaches fits robotics through search-and-rescue platforms—unmanned boats, drones, or robotic lifeguards that can assess, locate, and assist before responders arrive. Manufacturing aircraft parts shows the industrial side, where robots perform precise, repeatable assembly and processes at high speed. Each example highlights a different strength of robotic systems—remote manipulation and sensing in dangerous environments, autonomous or assisted operation in dynamic settings, and high-precision automation in manufacturing. Because all of these illustrate valid robotic applications, the best choice is that all of the above are applications of robotics.

10. Which early robot was capable of playing the organ?

A. The Honda ASIMO

B. Hexapodal robot named Genghis

C. Wabot-2 capable of playing the organ

D. SCARA

Playing the organ highlights a robot's ability to perform precise, coordinated finger actions and timing—a classic demonstration of fine motor control in early robotics. Wabot-2, developed by Waseda University in Japan, was designed to mimic human manipulation well enough to press organ keys, making it one of the first robots to perform a task that requires such dexterity. The other examples are known for different capabilities: Honda ASIMO focuses on mobility and interaction, a hexapod like Genghis is typically explored for locomotion in uneven terrain, and a SCARA arm is used mainly for precise, planar assembly tasks. So the organ-playing robot among these is Wabot-2.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://robotics1honors.examzify.com

We wish you the very best on your exam journey. You've got this!